Amendments to the Claims:

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Please add the following new claims:

51. (New) A system for modifying the vibratory motion of at least one string of a stringed instrument in response to pre-selected player techniques involving selected characteristic features of the string's motion comprising:

a) at least one transducer for providing a sensing output signal in accordance with the motion of at least one string and for effecting a change in string motion in accordance with an actuating signal;

b) a supervisor responsive to the occurrence of one or more pre-selected player techniques for generating control signals according to said characteristic features of string motion; and

c) at least one controller responsive to said control signals for applying an actuating signal to said at least one transducer to modify said at least one string's motion in accordance with the pre-selected player technique(s).

52. (New) The system of claim 51 having an external input for supplying an external signal to a said controller to modify the vibratory motion of the string.

53. (New) The system of claim 51 wherein the amplitude of string vibration is one of the pre-selected player techniques.

54. (New) The system of claim 53 wherein a string undergoing vibratory motion of an amplitude above a threshold causes the controller to apply an actuating signal to sustain the sensed vibratory motion.

55. (New) The system of claim 51 wherein a motion of the string undergoing vibrato is one of the pre-selected player techniques and wherein the supervisor/controller is arranged to apply an actuating signal to said at least one transducer which causes the string to sustain the sensed vibratory motion in accordance with a measurement of the vibrato.

56. (New) The system of claim 51 wherein a motion of the string undergoing glissando is one of the pre-selected player techniques and wherein the supervisor/controller is arranged to apply an actuating signal to said at least one transducer which causes the string to sustain the sensed vibratory motion in accordance with a measurement of the glissando.

57. (New) The system of claim 51 wherein the supervisor is further programmed to tune the controller to align the frequency and phase of actuating signals to the frequency and phase of the string motional harmonics to provide selective control of both sustain and damping of string harmonic motion.

58. (New) A system for modifying the vibratory motion of at least one string of a stringed musical instrument comprising:

a) at least one unitary sensing/actuating transducer associated with at least one musical instrument string, said transducer being arranged to produce during a first portion of a time frame a sensing signal output representative of string motion and to apply during a second portion of said time frame an actuating force to the string in response to an actuating signal to modify said string motion;

b) at least one controller associated with said at least one sensing/actuating transducer, said controller being arranged to respond to said sensing signal during said first portion of a time frame and to apply said actuating signal to said transducer during said second portion of the time frame for selectively damping or modifying the vibratory motion of the string over a succession of said time frames; and

c) a user interface coupled to said at least one controller and responsive to the player's actions whereby the player of the instrument governs said damping or modifying behavior of said controller.

59. (New) The system of claim 58 wherein said at least one transducer comprises a pair of sensing/actuating transducers arranged to sense and actuate separate orthogonal components of the motion of a string vibrating in more than one plane.

60. (New) The system of claim 58 including at least one secondary sensing transducer (Fig. 2, 52a-c) for providing a secondary sensing output signal in accordance with the motion of the string.

61. (New) The system of claim 58 further including a mixer for combining various signals of the system into a composite audio output signal.

62. (New) The system of claim 58 wherein the said controller is arranged to drive the transducer using a discontinuous pulse width modulator further having a pre-distorting element to correct the non-linearity of said pulse width modulator.

63. (New) The system of claim 58 including an external input for supplying an external signal to modify the vibratory motion of a said string.

64. (New) The system of claim 58 wherein the user interface is provided with at least one control that is manually operable by the player for player control of system behavior.

65. (New) The system of claim 58 wherein said at least one controller is responsive to a reference control signal input prescriptive of string motion and wherein said user interface includes a supervisor to facilitate player control of system behavior, said supervisor being responsive to pre-selected player techniques involving selected characteristic features of string motion and supplying said reference control signals to said at least one controller.

66. (New) The system of claim 65 wherein the actuating signal is a correction signal for reducing the deviation of the string's motion from a desired motion.

67. (New) The system of claim 65 wherein a motion of the string undergoing a smooth changing of pitch is one of the pre-selected player techniques.

68. (New) The system of claim 67 wherein the supervisor/controller is arranged to apply an actuating signal to said transducer which modifies the motion of the string in accordance with the magnitude of pitch modulation due to vibrato.

69. (New) The system of claim 67 wherein the supervisor/controller is arranged to apply an actuating signal to said transducer which modifies the motion of the string in accordance with the rate of vibrato.

70. (New) The system of claim 67 wherein the supervisor/controller is arranged to apply an actuating signal to said transducer that modifies the motion of the string in accordance with a measurement of pitch change due to glissando.

71. (New) The system of claim 65 wherein the supervisor/controller is arranged to apply an actuating signal to said transducer that modifies the pitch of string vibration.

72. (New) The system of claim 71 wherein said pitch modification corrects the pitch to conform to a standard pitch.

73. (New) The system of claim 65 wherein the amplitude of string vibration is one of the pre-selected player techniques.

74. (New) The system of claim 73 wherein a string undergoing motion having amplitude above a threshold causes the supervisor/controller to apply an actuating signal to modify the string's vibratory motion and a string undergoing motion having amplitude below a threshold causes the supervisor/controller to apply an actuating signal to damp the string's vibratory motion.

75. (New) The system of claim 65 wherein said threshold is derived from an averaging of one or more string vibratory amplitudes.

76. (New) The system of claim 65 wherein a motion of the string creating a new note is one of the pre-selected player techniques.

77. (New) The system of claim 76 wherein the supervisor/controller is configured to modify the vibration of the most recent note played and to damp other string vibrations.

78. (New) The system of claim 76 wherein the motion of the string creating a new note having a given spectrum is one of the pre-selected player techniques.

79. (New) The system of claim 76 wherein the motion of the string creating one or a series of new notes of specified pitch is one of the pre-selected player techniques.

80. (New) The system of claim 79 having a user selectable mode wherein the occurrence of a pre-selected one or a series of new notes causes the supervisor to activate a corresponding instrument definition obtained from several stored alternative instrument definitions each instrument definition prescribing a separate behavior of the instrument.

81. (New) The system of claim 65 having a mode wherein sympathetic vibrations occurring on unplayed strings are damped.

82. (New) The system of claim 65 wherein the motion of the string being muted is one of the pre-selected player techniques.

83. (New) The system of claim 65 wherein the supervisor is further arranged to record, store, access, route and process data relating to the system.

84. (New) The system of claim 65 wherein the supervisor is provided with one or more external data connections whereby programs in the supervisor can be changed or replaced and/or for general data communications and/or for an auxiliary user-interface.

85. (New) The system of claim 65 wherein a portion of the system is realized using analog electrical circuitry.

86. (New) A method of recognizing pre-selected player techniques in playing a stringed instrument and utilizing such recognized techniques as a means to modify the operation of the instrument in which the pre-selected techniques involve selected characteristic features of string motion with each string having at least one associated transducer coupled thereto for providing sensing output signals in accordance with the string motion and for effecting a change in the string vibratory motion in response to an actuating signal comprising:

extracting feature signals from the transducer output signals associated with each string;

routing the extracted feature signals according to their correspondence to one or more pre-selected player techniques; and

applying, as pre-specified functions of the types and measurements of the extracted feature signals, actuating signals to at least one of said transducers to modify the vibratory motion of said string(s).

87. (New) The method of claim 86 wherein the step of routing according to correspondence to pre-selected techniques includes providing a set of pattern matching rules representative of features of string motion associated with the pre-selected player techniques, testing the extracted features against said rules, and sending specific test-selected feature signals to prescribed function processors to generate control signals to govern one or more motion controllers.

88. (New) The method of claim 86 wherein the pre-selected player techniques include one or more techniques in the form of amplitude of string vibration, vibrato, glissando, muting, plucking a new note of a selected amplitude, the spectrum of a new note, the spectra of a note, the harmonic balance of a new note, and one or a series of note pitches.

89. (New) The method of claim 86 applying actuating signals to one or more transducers to excite vibration in the associated strings in response to a selected player technique.

90. (New) The method of claim 86 wherein said actuating signal is derived from an external signal input to the system.

91. (New) The method of claim 86 wherein each of the associated transducers is arranged to produce a sensing output signal in accordance with the motion of the string and to effect a change in the string motion in accordance with an actuating signal, the sensing and actuating signals occurring during separate portions of successive time frames.

92. (New) The method of claim 91 wherein all sensing signals from the transducer occur during the same first time and all actuating signals applied to the transducer occur during a same second time.

93. (New) The method of claim 91 including applying actuating signals to one or more transducers to substantially prohibit the vibration of the associated strings in response to a selected player technique.

94. (New) The method of claim 91 including storing selected frequency domain reference signals and applying actuating signals to one or more transducers in accordance with the frequency domain reference signals in response to a selected player technique.

95. (New) The method of claim 94 including providing a storage array containing reference signals and further including converting selected extracted feature signals to indices for addressing the storage array.

96. (New) The method of claim 94 including converting the sensed string motion to a frequency domain signal for comparison to a prescribed frequency domain reference signal and generating actuating signals from said comparison that create forces emanating from the transducer to compel and constrain said sensed string motion towards an intended string motion as prescribed by said reference signal.

97. (New) The method of claim 91 including storing selected time domain waveform reference signals and applying actuating signals to one or more transducers in accordance with the time domain reference signals in response to a selected player technique.

98. (New) A system for modifying the vibration of at least one string of a multi-stringed instrument having:

a) at least one transducer for providing a sensing output signal in accordance with the motion of the string and for effecting a change of the motion of the string in accordance with an actuating signal;

b) a manual control area responsive to finger position along a first and second axis and providing first and second manual input control signal indicative of said finger position;

c) a supervisor responsive to said manual input control signals causing a first axis control signal to select between string or harmonics and the second axis to govern the amount of sustain and damping and producing control system command signals accordingly; and

d) a controller responsive to said control system command signals for applying an actuating signal to the transducer to modify the string's motion in accordance with finger positions.